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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,114	11/07/2001	Akio Yamamoto	3673-0125P	4907
2292	7590	10/21/2004	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			SENGI, BEHROOZ M	
			ART UNIT	PAPER NUMBER
			2613	

DATE MAILED: 10/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/986,114	Applicant(s) YAMAMOTO ET AL. 	
	Examiner Behrooz Senfi	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Amendment, filed Aug. 17, 2004, with respect to the final rejection (paper no. 6, dated 5/17/2004) under 35 U. S. C. 103(a) have been fully considered and are persuasive. Therefore, the previous rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Rankin (US 5,489,099) and Edelson et al (US 2002/0054211) and Yokota et al. (US 5,905,530). Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 – 2, are rejected under 35 U.S.C. 103(a) as being unpatentable over Rankin (US 5,489,099) in view of Edelson et al (US 2002/0054211).

Regarding claim 1, Rankin '099 discloses the claimed limitations "a ball motion measuring apparatus, comprising; Camera for photographing a flying ball " (i.e. figs. 1 and 2, video camera 25), and "a display section for displaying " (i.e. fig. 2b), and "calculating the ball motion" (i.e. col. 4, lines 64 – col. 5, lines 29). Rankin '099 teaches, "calculating the ball motion", but fails to explicitly teach, "magnifying process for calculating the motion". However, such features are well known and used in the prior art of the record as evidenced by Edelson '211 (i.e. page 3, section 0023 and page 5, 15).

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Therefore, taking the combined teaching of Rankin '099 and Edelson '211 as a whole, it would have been obvious to one skilled in the art at the time of the invention was made to enhance the video processor of Rankin '099 as taught by Edelson '211, and make the system capable of immediately detecting any object motion in a scene by calculating the motion of individual object(s) by highlighting/magnifying the moving object.

Furthermore, the use of CCD camera(s) for tracking an object is well known and used in the prior art of the record. Official notice

Regarding claim 2, Combination of Rankin '099 and Edelson '211 teach, "horizontal view angle of 10 degrees or more" (i.e. figs. 5 and 6, panning video camera of Edelson).

4. Claims 3, 4 – 8, are rejected under 35 U.S.C. 103(a) as being unpatentable over Rankin et al (US 5,489,099) in view of Yokota et al. (US 5,905,530).

Regarding claim 3, Rankin '099 teaches the claimed limitations "a ball motion measuring apparatus, comprising; Camera for photographing a flying ball " (i.e. figs. 1 and 2, video camera 25). Rankin '099 teaches correction of the camera motion, but fails to teach more in details of "correcting a distortion made by camera lens (coordinate error correction)". However, such features are well known and used in the prior art as evidenced by Yokota '530 (i.e. figs. 1, 31 and 35, and abstract, lines 10 – 12, cols. 7 – 11) teaches process of correction of the image distortion caused by the camera lens and also distorted and undistorted image with respect to the object, to have undistorted (true) coordinates of the object image. Therefore, taking the combined teaching of Rankin '099 and Yokota '530 as a whole, it would have been obvious to one skilled in

the art at the time of the invention was made to improve the image pickup apparatus for correcting a distortion of an image necessarily occurring due to a photographing lens (distortion correction) as taught by Yokota.

Regarding claim 4, combination of Rankin '099 and Yokota '530 teaches "correction ratio determined by a distance from the center of the original image," reads on (fig. 19, col. 9, lines 35+ of Yokota '530).

Regarding claims 5 and 7 - 8, combination of Rankin '099 and Yokota '530 teach, "horizontal view angle of 10 degrees or more" (col. 3, lines 35 – 45 of Yokota).

Regarding claim 6, the limitations claimed are substantially similar to claim 3, and "the shift of a direction of the object image from a direction of an optical axis of the camera" would be included in the process of the correcting the object image distortion, as discussed in claim 3, therefore the grounds for rejecting claim 3 also applies here.

5. Claims 9 – 10, are rejected under 35 U.S.C. 103(a) as being unpatentable over Rankin '099 in view of Edelson '211 as applied in claim 1, and further in view of Yokota '530 as applied in claim 3.

Regarding claims 9 - 10, combination of Rankin '099 and Edelson '211 teach, "a ball motion measuring apparatus, comprising; Camera for photographing a flying ball " (i.e. figs. 1 and 2, video camera 25), and "a display section for displaying " (i.e. fig. 2b), and "calculating the ball motion" (i.e. col. 4, lines 64 – col. 5, lines 29), and "magnifying process for calculating the motion" (i.e. page 3, section 0023 and page 5, 15 of Edelson). Combination of Rankin '099 and Edelson '211 teach, correction of the camera motion, but fails to teach more in details of "correcting a distortion made by

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camera lens (coordinate error correction)". However, such features are well known and used in the prior art as evidenced by Yokota '530 (i.e. figs. 1, 31 and 35, and abstract, lines 10 – 12, cols. 7 – 11) teaches process of correction of the image distortion caused by the camera lens and also distorted and undistorted image with respect to the object, to have undistorted (true) coordinates of the object image. Therefore, taking the combined teaching of Rankin '099 and Yokota '530 as a whole, it would have been obvious to one skilled in the art at the time of the invention was made to improve the image pickup apparatus for correcting a distortion of an image necessarily occurring due to a photographing lens (distortion correction) as taught by Yokota. And the "shift of a direction of the object image from a direction of an optical axis of the camera in claim 10" would be included in the process of the correcting the object image distortion as discussed above.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Behrooz Senfi** whose telephone number is **(703)305-0132**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Chris Kelley** can be reached on **(703)305-4856**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relative to the status of the application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

B. S. K.

10/6/2004


CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600